

THE PREVENTIVE MAINTENANCE SERIES

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The Corvair Powerglide

This is the last in a series on the Powerglide. If you are performing cleaning, checking and sealing, here are some common old age problems I have run across over the years:

1. Check all of the bushing areas on the front pump shaft – fifty percent of the shafts will have badly worn areas. This would also mean checking the corresponding bushings. The most common bushing that I have found bad is the long bushing located in the front pump body. It is available from CCP and can be pressed out and back in with a suitable socket. Watch the alignment of the lubrication hole. In this same area, check the tips of the front pump drive, the fit of the tip to the splines on the shaft, and the snap rings that secure it. If the tips are badly worn, the three keyways in the pump gear may also be damaged. Check the passage through the front pump shaft for debris if the transmission has been stored without the end covered. The shaft is hollow with a small hole at both ends.
2. The rear pump drive lugs which are pressed in to the planetary unit are almost always loose. I use a punch to squeeze the holes in slightly and apply Loctite stud and bearing mount before tapping them back in.
3. Carefully check the aluminum reverse piston – about 25% are cracked or just plain broken. The area to check is the inside surface where the small seal is located. If the piston is broken be sure to check the inside of the case where the reverse clutch pack fits. The case may have been damaged from the piston cocking or chattering.
4. The original low bands seem to last forever, however, some of the relined bands I have found are somehow no longer concentric to the drum. When you check the band it may have the lining worn off at the tips of the three band sections. The band will prematurely slip and may score the clutch drum from the steel on steel contact.
5. The front pump hub may have scoring on it at the bushing area. This is not very common but if other parts are badly worn this will be also. The two cast iron seal rings should be checked along with the area they ride on in the clutch drum. Worn parts in this area can cause fluid loss out of the vent.
6. Check the governor shaft housing and the plastic gear for wear. Interestingly enough, the steel governor shaft housing may have grooves worn in it where it rides on the aluminum case, but the case will be in perfect condition.
7. Use a hand vacuum pump to test the vacuum modulator. I'm not positive, but I think that along with poor shift performance, a bad modulator may cause the e-clip on the throttle valve to break. That is the one that causes either no shift or instant shift.
8. If the transmission you are working on has been worked on previously, be sure to check for mismatched early and late parts.

Assembly Tip: Look at the 65 shop manual page 7-52, Fig. 7E-56. I have checked many Powerglides for this clearance and have determined that if you sit the transmission on the end, make sure all the parts are seated, install the original thrust washer on the drum surface and measure from the ledge where the

front pump body mounts to the thrust washer, the measurement should be 0.730. There are two washers used to adjust the internal running clearance: 0.050 and 0.076. You should be able to use one or the other to get close to the 0.730 measurement.

There are a lot of other checks that the shop manual lists as part of an overhaul, and most are easy to understand and perform. The ones I touched on above are some of the more common items associated with old age.